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CAMBODIA, LAOS, THAILAND AND VIET-NAM

Committee for Coordination of Investigations
of the Lower Mekong Basin,
Sixteenth Session
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Phnom-Penh, Cambodia

INDEX OF TOPOGRAPHIC MAPS OF THE LOWER MEKONG BASIN AS OF 1 JANUARY 1961

Information paper prepared by the secretariat

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I. INTRODUCTORY EXPLANATION

1. Of all the basic data required for reconnaissance, planning, design and operation of water projects, it can be said without doubt that topographic mapping stands very high in the list of requirement. In its programme of studies and investigations, the Committee had accorded high priority to topographic mapping and had obtained the assistance of Canada in mapping the entire main river and several dam sites and many tributaries. The Japanese Reconnaissance Team had prepared a number of topographic maps for conducting field work and for planning tributary projects. The riparian countries, under their own mapping programme and under bi-lateral and other aid programme, are preparing topographic maps for general use and for various projects. In the Special Fund/UNESCO delta model project, it will be necessary to map the Great Lake and the deltaic area. The Special Fund hydrography survey is going to carry out systematic mapping of the river channel.

2. To facilitate the development of the Mekong, it is of interest to compile an index showing the current mapping available in the lower Mekong basin. Such an index should naturally include not only those maps prepared specifically for the Committee, but also maps carried out by the respective countries under their own programme. The country maps are often prepared in a smaller scale, but they provide the basis for carrying out reconnaissance work and for planning development projects over a larger area.

3. The present index lists only those topographic maps which are considered to be most useful to planners and not all of the maps published by the national agencies. It is requested that this index be examined and checked by the national agencies and will then be revised to reflect the correct situation of mapping in the lower Mekong basin.

/4. A list

4. A list of maps, old and new, published by the mapping agencies in the respective countries are attached as annexes in this paper.

5. Maps other than topographic maps are also useful in planning water resources development, such as hydrographic maps, geological maps, soil maps, mineral maps, and maps of land use. It is the intention of the secretariat to publish in the near future an index of other related maps.

/II. INDEX MAP

II. INDEX MAP ON LEVELLING

(Figure 1)

The datum plane of the network of levelling in Thailand is the observed mean sea level at Ko Lok, Prachuab Kirikhan, located on the western coast of the Gulf of Thailand. The datum plane of the network of levelling in Cambodia, Laos and Viet-Nam is the observed mean sea level at Mui Nai, Ha-Tien, on the eastern coast of the Gulf.

Under the US aid programme to the Committee, a line of 3rd order levelling has been established along the main stem of the Mekong from the Burma-Thai-Laos border at Chieng Saen to Kompong Cham in Cambodia, and from the main stem to several gauging stations in the major tributaries. This line of levelling is connected with ties to the Thai levelling network. Under the same programme, first order check levelling has been carried out in the deltaic area along the following existing lines: Kompong Cham to Phnom-Penh; Battambang to Phnom-Penh; Phnom-Penh to Ha Tien; and Ha Tien to Cantho Soctrang. Cards of the individual bench marks covered by the US programme, carried out by a group of Canadian firms, are presently kept by the Harza Engineering Co. and will be turned over to the Committee.

A profile of the Mekong main stem from the Burma border to Phnom-Penh, showing water level of the main river reduced to 1 April 1960, has been prepared by the Hunting Survey Co. of Canada. For the lack of levelling, profiles of the major tributaries of the Mekong are not yet available.

Figure 1 shows the existing network of levelling in the lower Mekong basin.

/III. INDEX OF

III. INDEX OF AERIAL PHOTOGRAPHIC COVERAGE
(Figure 2)

The lower Mekong basin is completely covered with aerial photographs, carried out by the national agencies with the assistance of Army Map Service of USA. The photographs, taken in the period from 1953 to 1957, are at a scale of 1:40,000 and in a format of 25 x 25 cm.

Another set of aerial photographs, taken by Institute Geographique National in 1952-1954, covers Laos, Cambodia and Viet-Nam. The scale is 1:40,000 and the format is 13 x 18 cm.

Large scale photographs, at a scale of 1:10,000 are available for part of the area around the Great Lake in Cambodia.

Photographs at a scale of 1:40,000 of the main stem of the Mekong from Burma border to Phnom-Penh and of several major tributaries were taken by Canada in 1959. Photographs at a scale of 1:10,000 for three main stem dam sites, namely Pa Mong, Khone and Sambor were also taken by Canada.

Figure 2 is an index map of aerial photographic coverage in the lower basin.

/IV. INDEX OF

IV. INDEX OF TOPOGRAPHIC MAPS

It is not the intention to list in this paper indices of all topographic maps published by national and other agencies, but rather to list those maps of recent edition which are considered more useful in planning water resources development.

1. 1:250,000 topographic maps, contour interval 50 m (figure 3):

The most useful series of maps for general use is the 1:250,000 maps prepared by the Army Map Service, Corps of Engineers, USA, in 1954-1957 from existing topographic maps of the riparian countries. This series, printed in colours, covers the entire lower basin with 50 m contour intervals and supplementary contours at 25 m intervals. Names and explanations in the maps are given in English and French. The index of individual sheets is shown in figure 3.

2. 1:100,000 topographic maps of Cambodia, Laos and Viet-Nam, contour interval 25 m (Figure 4)

This is a series of maps prepared by the former Service Geographique de l'Indochine. It is produced by planimetric method and covers most of the area in the three countries. The contour interval is 25 m with spot levelling indicated on the maps. Index of sheets is shown in figure 4. Individual sheet is available with the mapping service of the respective countries.

3. 1:50,000 topographic maps of the lower Mekong basin, contour interval 20 m with intermediate contour at 10 m interval (figure 5)

During the past few years, the four riparian countries have obtained the assistance of Army Map Service of US Army in the preparation of a new set of 1:50,000 topographic maps. Aerial photographs, at a scale of 1:40,000, covers the entire lower basin and ground control has been completed for Thailand and Cambodia and also partly for Viet-Nam. Up to the present,

/topographic maps

topographic maps have been published for practically all of the northeastern part of Thailand. The first few sheets of maps for Cambodia are now ready and the rest for Cambodia is scheduled to be completed by the end of 1963. Production of maps for some part of Viet-Nam has begun.

This new series of 1:50,000 maps will be the most accurate and up-to-date topographic map of the lower basin. The maps are printed in colours and are available from the mapping agencies of the respective countries.

Index of the 1:50,000 maps so far completed is shown in figure 5.

As for Thailand, this new series supersedes the former 1:50,000 Thai topographic maps published by the Royal Thai Survey Department.

4. 1:20,000 main stem topographic maps of the Mekong, 5 m contour interval with intermediate contour at 2.5 m (figure 6)

The topographic mapping of the Mekong river carried out under the Canadian aid programme, covers the entire river course of the main stem from Burma border to Kompong Cham. The maps are to be produced at a scale of 1:20,000 with 5 m contour interval and intermediate contour at 2.5 m, from photographs at a scale of 1:40,000. The main stem mapping extends to both sides of the main river to include all anticipated reservoir area of the future dam-reservoir projects. Ground control covers the entire main river, while some of mapping that extend into tributaries are controlled by Air-borne Profile Recorders (APR).

Detailed topographic maps are to be provided for three dam sites, the Pa Mong, Khone, and Sambor, at a scale of 1:2,000 with contour interval of 1 m from photograph of 1:10,000.

Topographic maps will also be provided for the several tributary projects. The tributary mapping, covering the reservoir area as well as irrigable area, is at a scale of 1:20,000 with 5 m form lines from 1:40,000 aerial photographs with APR control. In addition, semi-control mossaics are to be provided for the

/irrigable area

irrigable area of four tributary projects.

An index showing the general coverage of the Canadian maps is shown in figure 6. Index showing the sheets of maps will be issued later.

5. Topographic maps by Japanese Team (Figure 7)

To facilitate their reconnaissance work, the Japanese Team, using AMS 1:40,000 aerial photographs, prepared certain amount of topographic maps of promising tributaries and feasible dam sites. The team did not carry out any ground control work, but used the ground levels as indicated in the topographic maps of the respective countries.

An index[1/] of all maps prepared by the team is shown in figure 7. In general, maps covering a larger area are at a scale of 1:50,000, with a few at a scale of 1:20,000. Maps of the dam sites are at a scale of 1:10,000.

6. 1:25,000 topographic maps of the Mekong delta in Viet-Nam and other maps (figure 7)

A major portion of the Mekong delta in Viet-Nam is covered by maps at a scale of 1:25,000 with 1 m contour interval for altitude below 15 m MSL and 5 m contour interval for altitude above 15 m MSL. Spot levellings are also indicated on the map. The area covered by this series of maps is shown in figure 7.

Topographic map at a scale of 1:25,000 is available for the area around Upper Se San in Viet-Nam. A set of maps covering the upper basin of the Nam Theun, Laos, at a scale of 1:20,000 and contour interval of 10 m was published by Institute Geographique National in Paris, in cooperation with a UN mission. The coverage of these maps is shown in figure 7.

/Annex 1

1/ Please see list of tributaries mapped by the Team as contained in the "Comprehensive Reconnaissance Report on the Major Tributaries of the Lower Mekong Basin", September 1961, page AP-II-22 to 24.

Annex 1

Catalogue des Cartes
Service Géographique Khmer des F.A.R.K., Cambodge

Echelle	Désignation des chartes et Description sommaire
1/500,000	Cartes administratives
1/400,000	Cartes routières
1/250,000	Cartes routières
1/100,000	Cartes d'Etat-Major
1/50,000	Cartes sont en cours d'etablissement par l'U.S. Army Map Service Far East à Tokyo.

Annex 2
Catalogue des Cartes
Service Geographique National, Laos

Echelle	Désignation des chartes et Description sommaire
1/500,000	Carte administratives
1/400,000	Carte routières
1/250,000	Carte routières
1/100,000	Carte avec courbes de Niveau ou cartes de reconnaissance publiées sous forme d'esquisse planimétrique. Edition normal et provisoire.
1/50,000	AMS couvrant la frontière Thailande-Laos avec courbes de niveau.
1/20,000	Chutes de la Se Set (Saravane)
1/20,000	Vallée de la Nam Theun

/Annex 3

Annex 3
List of maps
Royal Survey Department, Thailand

Scale	Description
1/2,000,000	"Maps of Thailand" printed in both Thai and Roman letterings in colours. One set consists of 3 sheets.
1/1,000,000	Maps on scale 1:1,000,000 are published in two series, one called "The International 1/Million Map", the other called, "The Special 1/Million Map". The International 1/Million Map is printed in both Thai and Roman letterings in accordance with the regulations of the International One Millionth Map of the World. These maps are in colours and one set consists of 6 sheets covering all over Thailand. The Special 1/Million Map is printed in Thai lettering only, and in colours.
1/500,000	Originally maps on this scale were all printed in black but afterwards printing has been changed to 4 - colour process.
1/200,000	Maps on this scale cover the whole of Thailand but most of them are still rough maps because surveys have not yet been completed all over Thailand. Revisions are constantly made according to the surveyed details. At present there are both black and coloured editions with and without geographic coordinate reference lines. These maps in future will always be printed in 4 colours and always with geographic coordinate reference lines.
1/100,000	Maps on this scale are compiled from topographic maps of surveyed areas and therefore do not cover

/the whole

Scale	Description
	the whole country because surveys have not yet been completed all over Thailand. At present these maps are available both in black and in colours without grid. In future they will be printed in 4 colours and gridded.
1/50,000 (old series)	Maps on this scale are the standard series covering such areas as have been surveyed. At present both black and colour editions are available and un-gridded. Future maps of this series will be printed always in 4 colours and gridded.
1/50,000 (new series)	Maps are prepared with the assistance from MAS, based on aerial photographs on scale 1:40,000 and ground control carried out 1953-57. Contour interval 20 metres with intermediate contour 10 metres. Maps for part of Thailand completed.
1/25,000	Maps on this scale are printed in small number and only in black for use in constructing maps on scale 1:50,000 and are not available for sale.

Annex 4
Catalogue des Cartes
Service Géographique National, Viet-Nam

Echelle	Désignation des Cartes et Description sommaire
	VIET-NAM - CARTES GENERALES
1/25,000	CARTES AVEC COURBES DE NIVEAU établies daaprès des levés réguliers sur terrain ou CARTES DE RECONNAISSANCE éditées sous forme d'esquisse planimétriques: EDITION PROVISOIRE de 2 à 5 couleurs.
1/100,000	CARTES AVEC COURBES DE NIVEAU ou CARTES DE RECONNAISSANCE publiées sous forme d'esquisse planimétrique. Edition normal et provisoire de 4 à 5 couleurs.
1/250,000	CARTES ROUTIERES DU VIETNAM - 7 couleurs 9 feuilles. Feuille simple et Feuille pliee avec couverture.
1/400,000	CAO-NGUYEN MIEN NAM (Hauts-plateaux du Sud-Vietnam) - 4 couleurs - 2 coupures.
1/500,000	CARTES ADMINISTRATIVES et ROUTIERES DU VIETNAM - de 8 à 10 couleurs - 8 feuilles.
1/500,000	CARTE ADMINISTRATIVE DU SUD-VIETNAM (carte scolaire) - 7 couleurs - 4 coupures.
1/1,000,000	Carte pédologique du Viet-Nam.
1/1,750,000	VIETNAM TONG-QUAT (carte générale du Viet-Nam) - 5 couleurs.
1/2,000,000	BAN-DO VIET-NAM (croquis physique et routier) - 8 couleurs.
1/2,000,000	VIET-NAM KINH-TE (Vietnam économique) 8 couleurs.
	INDOCHINE - CARTES GENERALES
1/400,000	CARTES ROUTIERES DE L'INDOCHINE (monochrome) - 24 feuilles.
1/500,000	Cartes geologique de l'Indochine.
1/1,000,000	CARTES AERONAUTIQUE (O.A.C.I.) - monochrome - (5 feuilles pour le VIETNAM)
1/2,000,000	CAMBODGE-LAOS-VIETNAM (Croquis physique et routier) - 9 couleurs.
1/2,000,000	INDOCHINE ECONOMIQUE - 8 couleurs.
1/2,000,000	INDOCHINE GEOLOGIQUE - 15 couleurs - 2 coupures.
1/4,000,000	CARTE DE L'INDOCHINE (en relief) - monochrome - format 60 cm x 45 cm.
1/7,600,000	CARTE DE L'INDOCHINE (carte d'étude) 3 couleurs - format 25 cm x 17 cm.
	CARTES LOCALES
1/20,000	Plao Sieng, 1 coupure

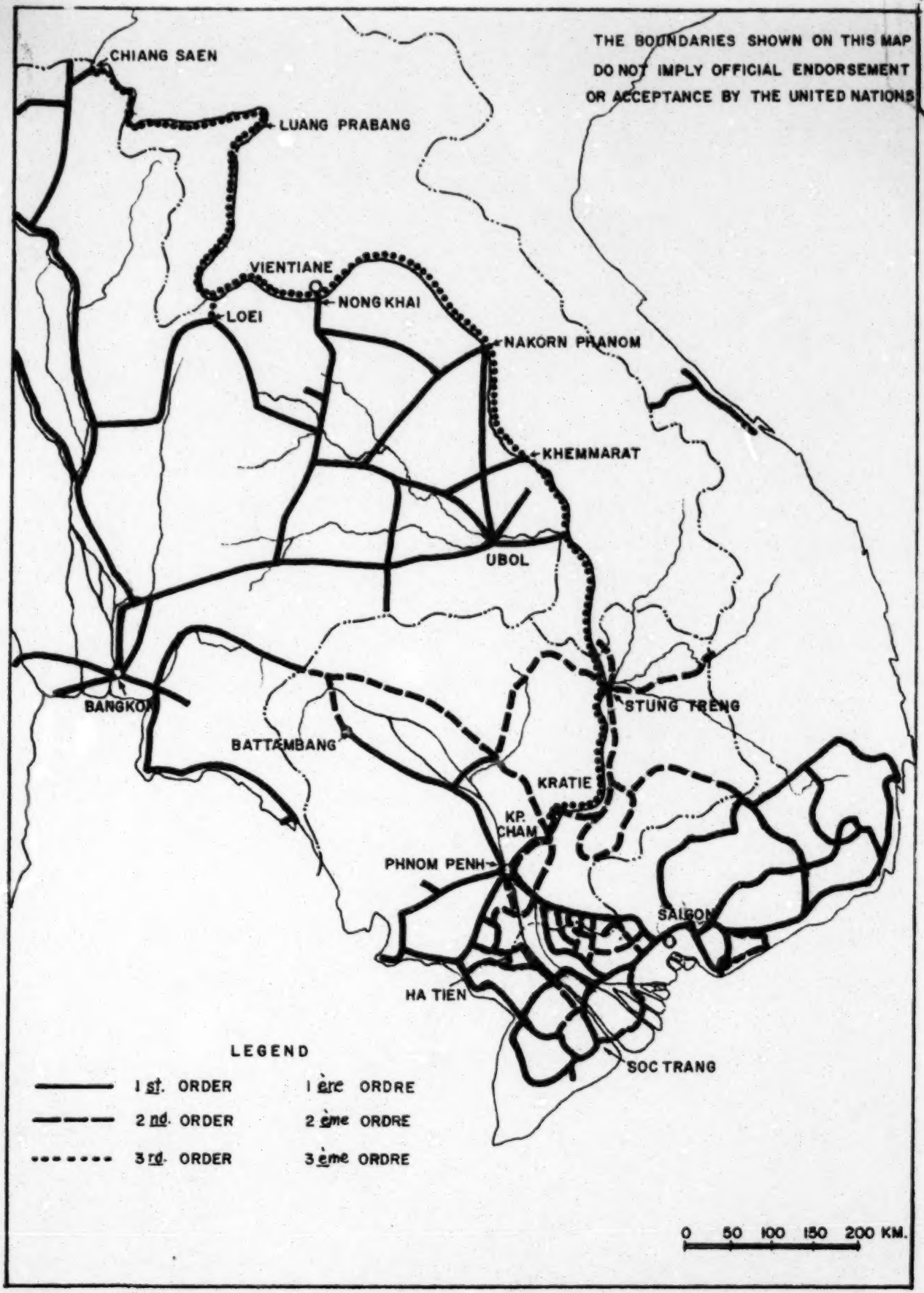

FIG. 1 NETWORK OF LEVELLING : RESEAU DE NIVELLEMENT

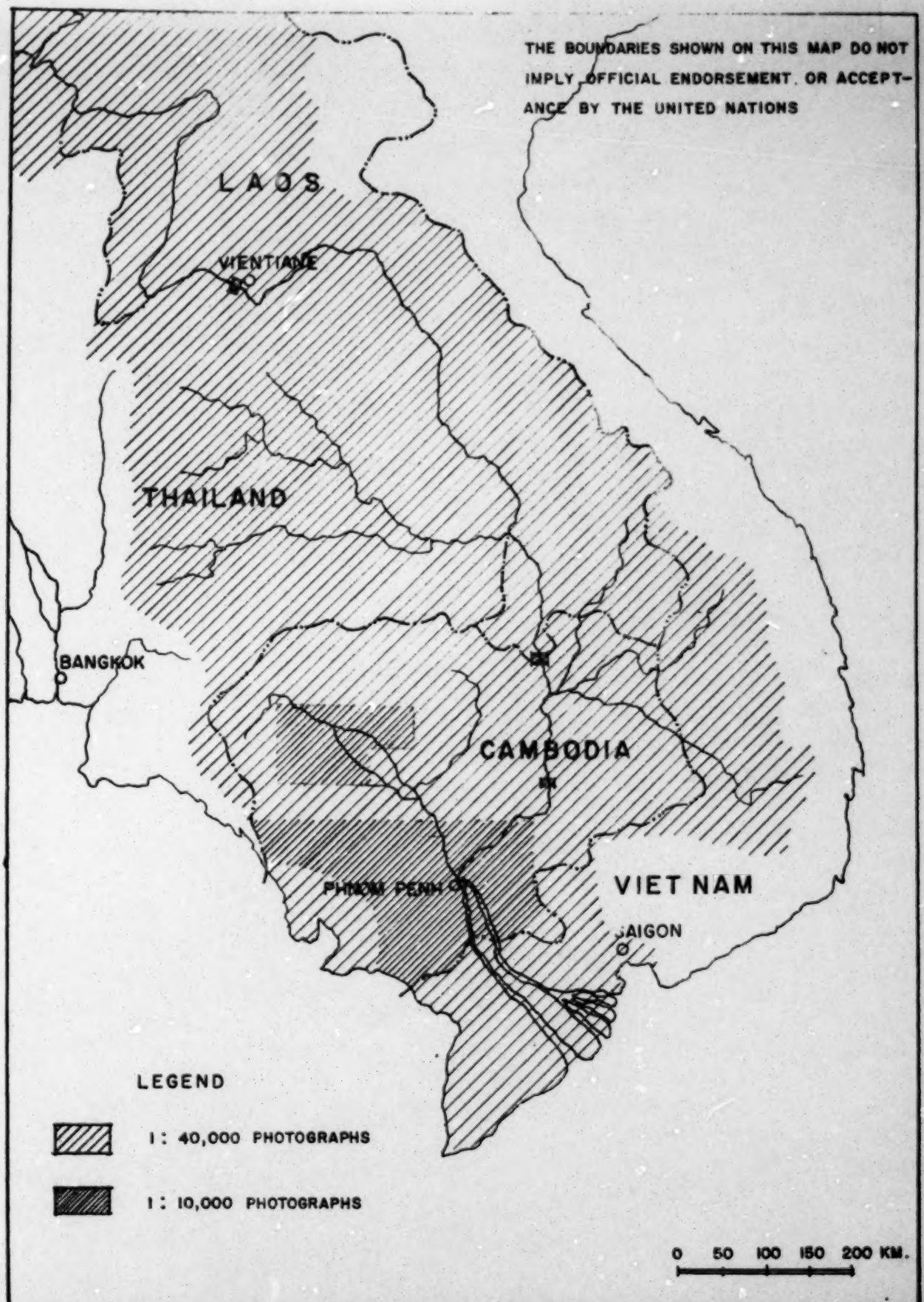

FIG. 2 AERIAL PHOTOGRAPHIC COVERAGE: COUVERTURE PHOTOGRAPHIQUE AÉRIENNE

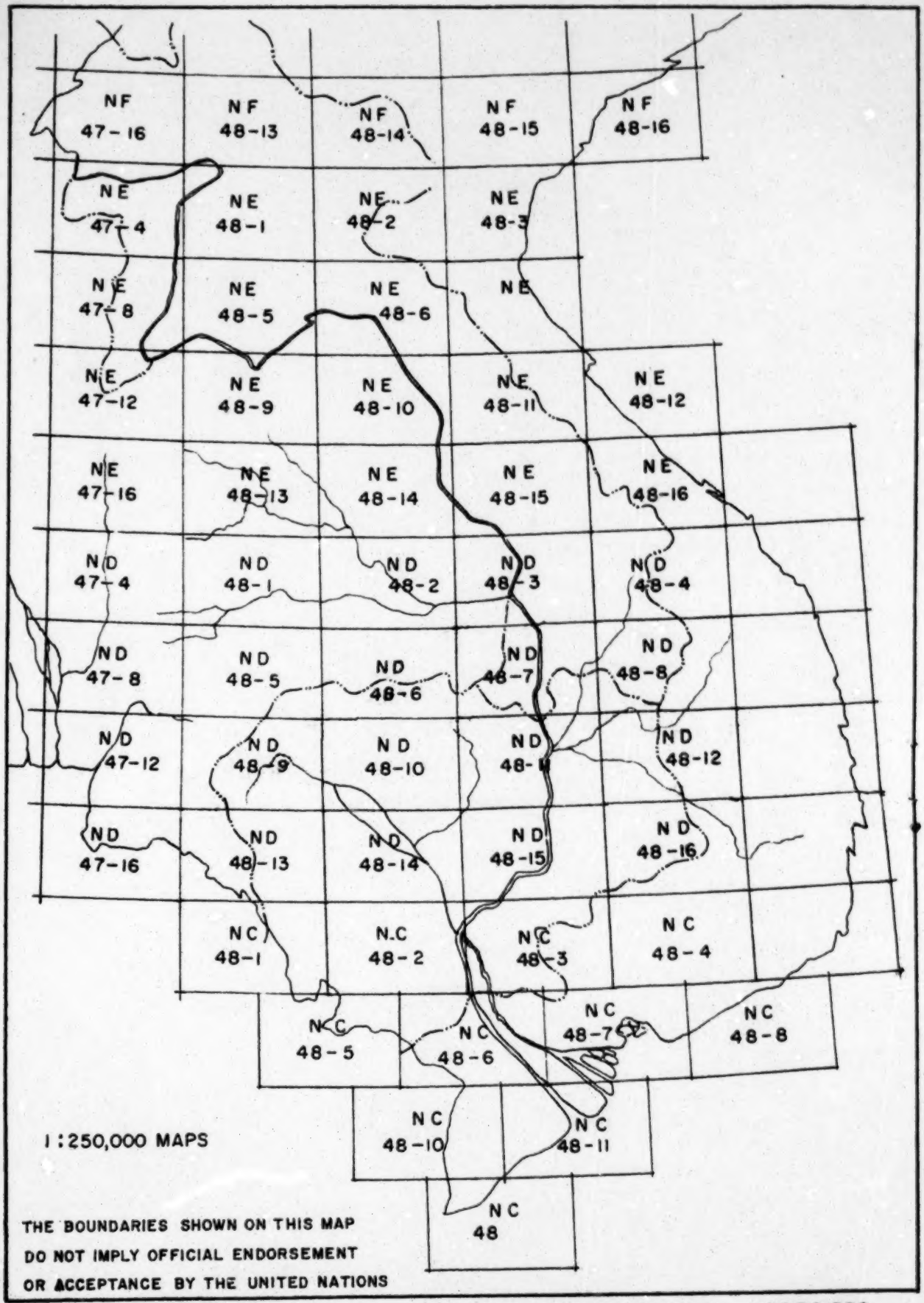

FIG. 3 TOPOGRAPHIC MAPS : CARTE TOPOGRAPHIQUE 1/250,000

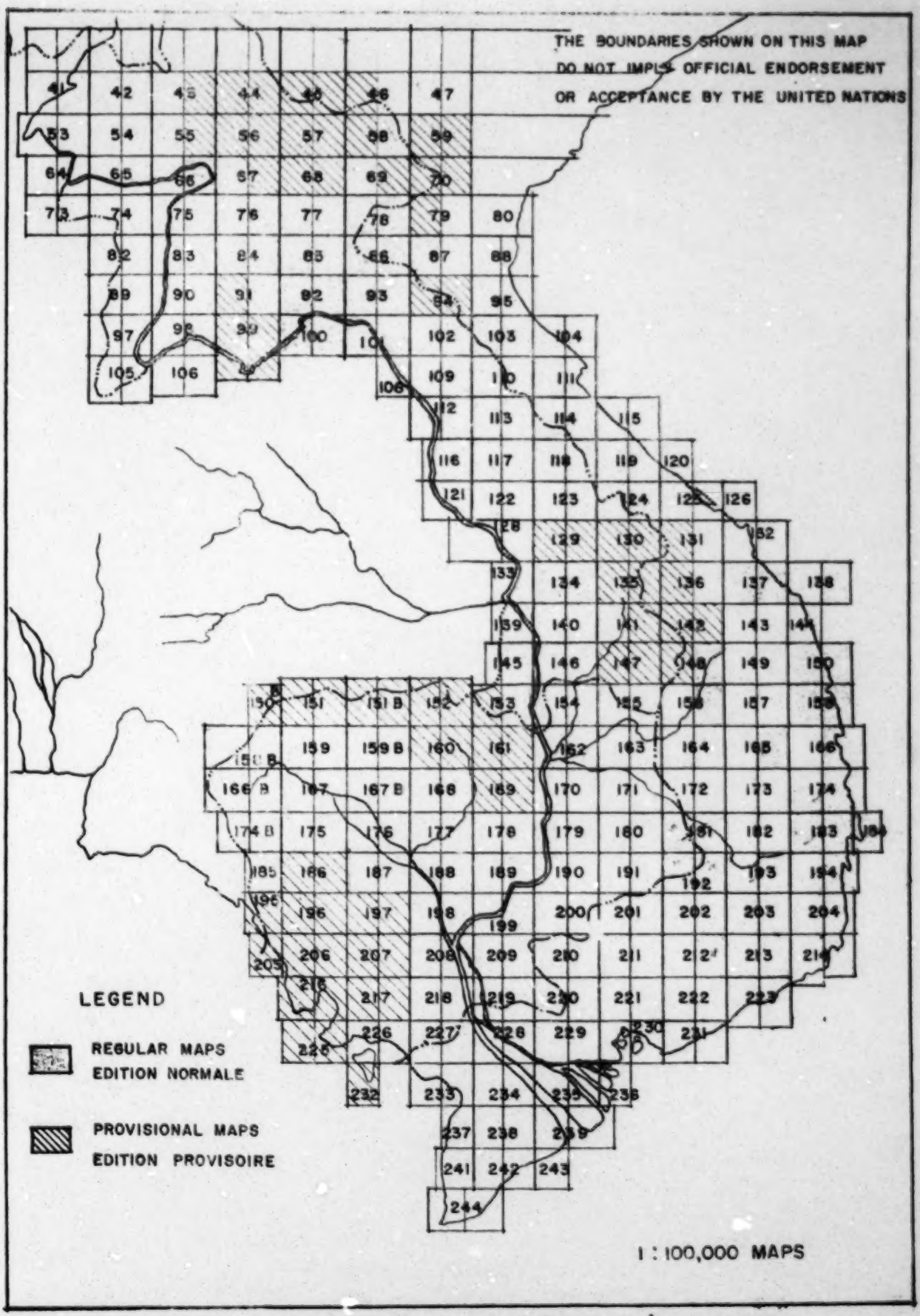

FIG. 4 TOPOGRAPHIC MAPS OF INDOCHINA : CARTE DE L'INDOCHINE

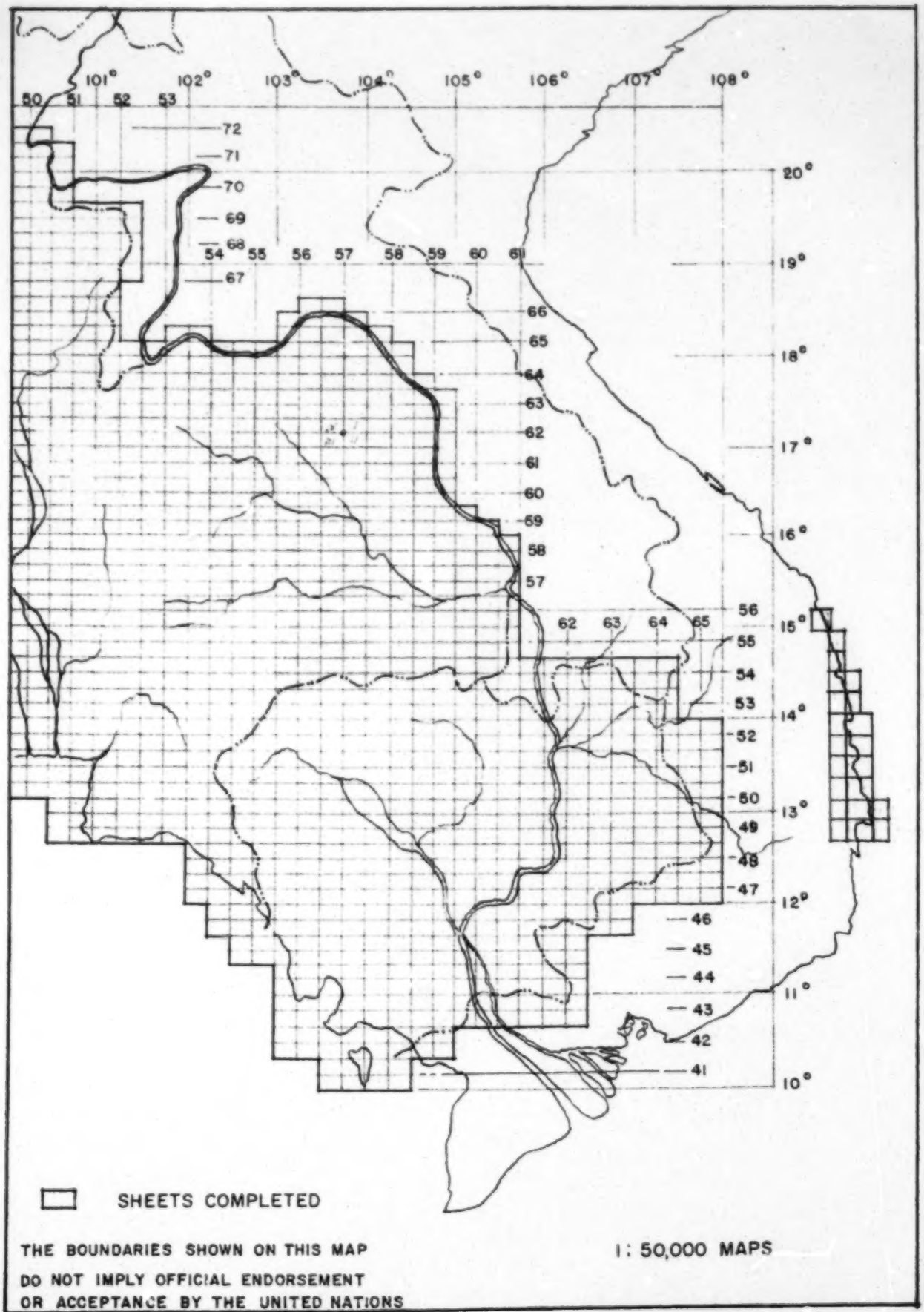

FIG. 5 TOPOGRAPHI MAPS NEW SERIES : CARTE TOPOGRAPHIQUE

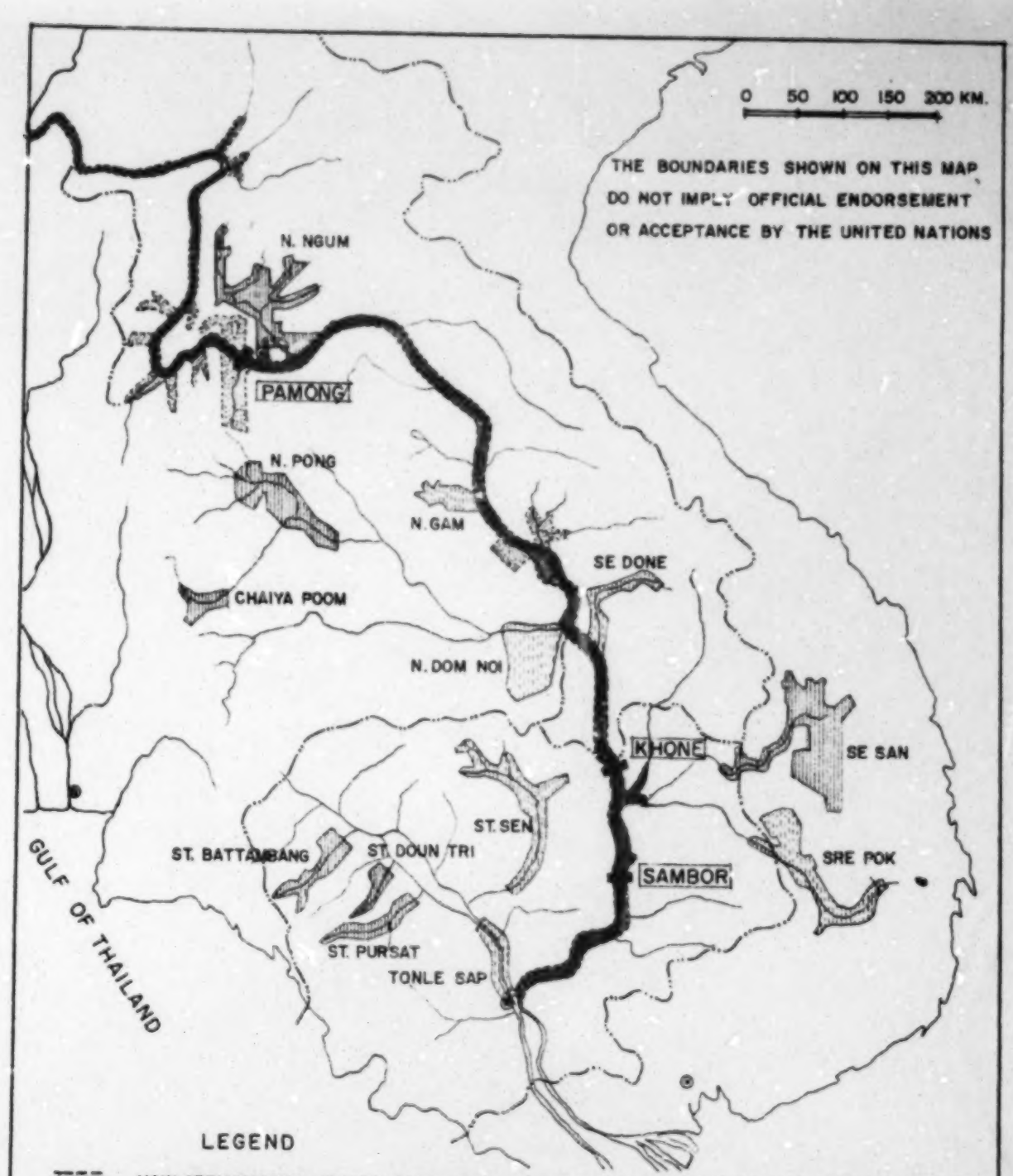
0 50 100 150 200 KM.
THE BOUNDARIES SHOWN ON THIS MAP DO NOT IMPLY OFFICIAL ENDORSEMENT OR ACCEPTANCE BY THE UNITED NATIONS
N. NGUM
PAMONG
N. PONG
N. GAM
SE DONE
CHAIYA POOM
N. DOM NOI
KHONE
SE SAN
ST. SEN
ST. BATTAMBANG
ST. DOUN TRI
SAMBOR
SRE POK
GULF OF THAILAND
ST. PURSAT
TONLE SAP
LEGEND
MAIN STEM MAPPING, GROUND CONTROLLED
CARTES DU COURS PRINCIPAL, CONTROLE AU SOL
MAIN STEM MAPPING, APR. CONTROLLED
CARTES DU COURS PRINCIPAL, CONTROLE AERIE
TRIBUTARY MAPPING, 1st. PRIORITY
CARTES DES AFFLUENTS, 1ère PRIORITE
TRIBUTARY MAPPING, 2nd PRIORITY
CARTES DES AFFLUENTS, 2ème PRIORITE
DAM SITE MAPPING, LARGE SCALE
CARTES DES SITES DE BARRAGES, A GRANDE - ECHELLE
1 : 20,000 MAIN STEM AND TRIBUTARIES.
1/20,000 COURS PRINCIPAL ET AFFLUENTS
1 : 2,000 DAM SITES
1/ 2,000 SITES DE BARRAGES

FIG. 6 TOPOGRAPHIC MAPPING BY CANADA: CARTES TOPOGRAPHIQUES EXECUTEES PAR LE CANADA

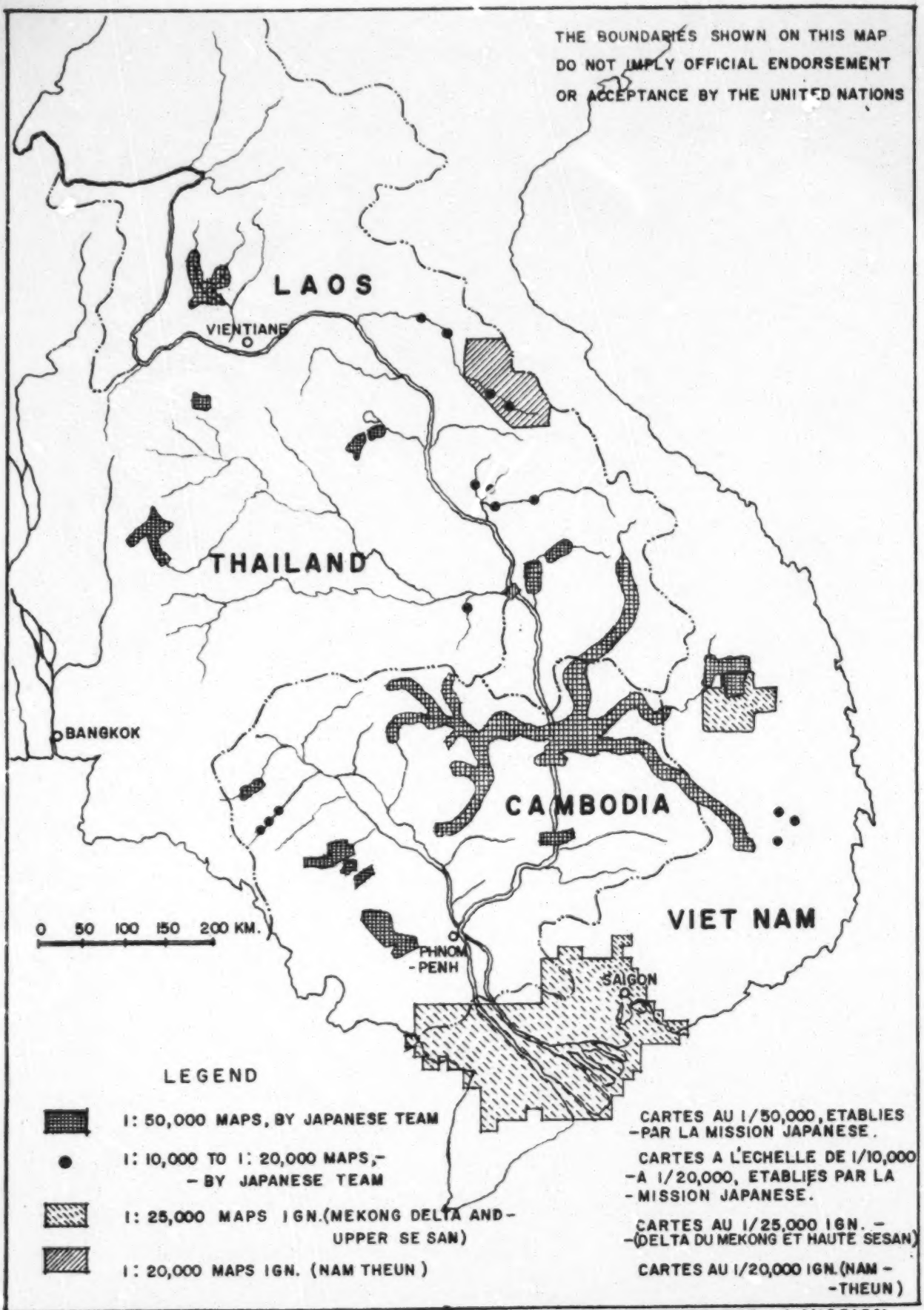
THE BOUNDARIES SHOWN ON THIS MAP
DO NOT IMPLY OFFICIAL ENDORSEMENT
OR ACCEPTANCE BY THE UNITED NATIONS
LAOS
VIENTIANE
THAILAND
BANGKOK
CAMBODIA
VIET NAM
PHNOM-PENH
SAIGON
0 50 100 150 200 KM.
LEGEND
1: 50,000 MAPS, BY JAPANESE TEAM
1: 10,000 TO 1: 20,000 MAPS, - BY JAPANESE TEAM
1: 25,000 MAPS IGN. (MEKONG DELTA AND UPPER SE SAN)
1: 20,000 MAPS IGN. (NAM THEUN)
CARTES AU 1/50,000, ETABLIES PAR LA MISSION JAPANESE.
CARTES A L'ECHELLE DE 1/10,000 A 1/20,000, ETABLIES PAR LA MISSION JAPANESE.
CARTES AU 1/25,000 IGN. (DELTA DU MEKONG ET HAUTE SESAN)
CARTES AU 1/20,000 IGN. (NAM-THEUN)

FIG.7 MAPS PREPARED BY JAPANESE TEAM AND OTHER MAPS : CARTES ETABLIES PAR LA MISSION JAPANESE ET AUTRES CARTES.